

74



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,212	03/06/2001	Jeffrey K. Lange	1819/100121	4984

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EXAMINER

WOZNIAK, JAMES S

ART UNIT PAPER NUMBER

2655

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/800,212	Applicant(s) LANGE ET AL.	
	Examiner James S. Wozniak	Art Unit 2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/29/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-11,13-19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-11,13-19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the office action from 7/29/2004, the applicant has submitted a request for continued examination, filed 1/29/2005, arguing to traverse the art rejection based on the limitation regarding the synchronization of caption data that is converted from an audio signal of an AV signal with a video signal (*Amendment, Page 8*). Applicant's arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments.

2. In the below rejection, Alshawi has been corrected to indicate the proper patent number (5,815,196).

Response to Arguments

3. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to **Claims 1, 9, and 17**, the applicant argues that Alshawi (U.S. Patent: 5,815,196) in view of Throckmorton et al (U.S. Patent: 5,818,441) fails to teach the synchronization of caption data that is converted from an audio signal of an AV signal with a video signal (*Amendment, Pages 7-8*), however the examiner notes that Throckmorton teaches a

synchronizer that utilizes time codes from a primary data stream for the alignment of associated data (*prior office action, pages 2-3*).

Applicant's arguments that Alshawhi teaches away from the claimed invention (*Amendment, Page 7*) fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

The applicant points out that Throckmorton teaches that associated data refers to a stream of data that is generated separately from the primary data (*Amendment, Pages 7-8*), however this statement does not teach away from the presently claimed invention as asserted by the applicant. In the claimed invention there is no indication that a singular process is used to generate an AV signal and an associated caption signal. According to the claimed invention the AV signal would also be generated first and separately and, at a later time, the caption signal would be generated using a speech-to-text generation means. Thus, since the AV signal and caption signal in the claimed invention are not generated simultaneously and utilize different data generation processes, Throckmorton does not teach away from the claimed invention.

With respect to the applicant's arguments that Alshawhi in view of Throckmorton fail to teach the synchronization of caption data that is converted from an audio signal of an AV signal with a video signal (*Amendment, Pages 7-8*), however, Throckmorton teaches the synchronization of primary data with associated data utilizing time codes (*Col. 4, Lines 52-65, and Fig. 2, Element 20*). Throckmorton further discloses that the associated data can be in the form of a caption (*Col. 6, Lines 54-63*), while the primary data can be from an AV signal (*television, videotape signal, Col. 3, Lines 36-54*). Alshawhi teaches the generation of said

captions from an AV signal utilizing speech recognition, as noted in the prior office action (*Pages 2-3*). Therefore, since Alshawi teaches a process of automatically generating captions and Throckmorton teaches synchronizing caption data with an AV signal utilizing time codes, Claims 1, 9, and 17 remain rejected.

Claims 2, 5-8, 10, 13-16, 18, and 21-24 are argued as further limiting their parent claims (*Amendment, Pages 8-9*). Thus, since the rejection of the independent claims is maintained, these dependent claims also remain rejected.

The applicant's arguments with respect to **Claims 3, 11, and 19** have been fully considered, but are moot in view of the new grounds of rejection in view of Rumreich et al (*U.S. Patent: 5,929,927*).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 2, 6, 8, 7, 9, 10, 14, 15, 17, 18, and 22-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawi (*U.S. Patent: 5,815,196*) in view of Throckmorton et al (*U.S. Patent: 5,818,441*).

Regarding **Claims 1, 9, and 17**, Alshawi discloses a method/computer readable medium having stored instructions with at least one processor for providing real-time subtitles

[captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio [speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning] (26). Alshawi does not disclose synchronizing the caption data with one or more cues in the AV signal. However, Throckmorton et al. teach a data synchronizing sub-system whose function is to synchronize the primary data stream generated by sub-system 10 with specific associated data. The input to data synchronizing sub-system 20 is scene information from the primary data stream in the form of timecodes and time durations [cues] and data from associated data generator sub-system 16. It creates a so called script for the delivery and display of associated data at specific points in time. The ability to synchronize the associated data with the primary has many benefits including helping the hearing impaired viewers to better understand AV content and providing relevant data such as synchronized captions that pertain to a television broadcast in real-time (*Throckmorton, providing real-time associated data, Col. 1, Lines 59-67*).

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify Alshawi with the synchronization of the caption data with one or more cues in the AV signal as taught by Throckmorton et al. since it would have enhanced the viewing experience of the hearing impaired and provided relevant data such as synchronized captions that pertain to a television broadcast in real-time.

Regarding **Claims 2, 10, and 18**, Alshawi discloses a method and apparatus that captures an AV signal and further provides the audio [*speech*] portion of the signal for conversion to text. Alshawi describes a videophone receiver that has an input signal that comprises a camera that represents the visual component of the communication and a microphone that represents the audio component of the signal that have been encoded. (CoI 2, 33- 40). In addition, Alshawi describes an audio/video decoder that accepts an AV input and separates the signal into two entities, video signal and audio signal (CoI 2, 51 - 55).

Regarding **Claims 6, 14, and 22**, Alshawi discloses a display that shows at least the video and text [*caption*] data. Alshawi describes simultaneously displaying the sending party's video overlaid with real-time subtitles [*captions*] that translates the sender's speech (CoI 3, 26 - 29).

Regarding **Claims 7 and 23**, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [*captioning*] in an AV signal. The disclosure includes the automatic conversion of an audio (including speech) signal in the AV signal to text (caption) data and associating the audio and text (caption) data at a time that corresponds to the video signal wherein the signal combination processing system synchronizes the caption data with one or more cues in the AV signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio [*speech*] portion of the signal to provide continuous speech-to-subtitles (speech-to-text)

translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning] (26).

Regarding **Claims 8, 15, and 24**, Alshawhi discloses a method and apparatus for translating speech and captions into a second language. Alshawhi describes an embodiment where the textual signal is translated into a target language that is then overlaid onto the video signal as real-time subtitles [captions] (CoI 3, 46).

6. **Claims 3, 11, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawhi in view of Throckmorton et al, as applied to claims 1, 9, and 17 above, and further in view of Rumreich et al (*U.S. Patent: 5,929,927*).

Regarding **Claims 3, 11 and 19**, the combination of Alshawhi and Throckmorton et al. discloses an integrated method and apparatus for providing real-time subtitles (captioning) in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text (caption) data and associating the audio and text (caption) data at a time that corresponds to the video signal. Alshawhi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio (speech) portion of the signal to provide continuous speech-to-subtitles (speech-to-text) translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning] (26).

Alshawhi in view of Throckmorton does not specifically suggest a method of converting the audio portion of the signal to text data that checks whether the amount of caption data is great than a threshold amount, however Rumreich teaches the processing of additional captioning data if a counter indicates that a caption buffer threshold has been exceeded (*Col. 10, Lines 16-34*). Rumreich also teaches the use of a timing means (*Col. 6, Lines 24-37*).

Alshawhi, Throckmorton, and Rumreich are analogous art because they are from a similar field of endeavor in caption processing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Alshawhi in view of Throckmorton with a means for providing an indication for the need of additional caption data if a caption buffer exceeds a threshold as taught by Rumreich to ensure that a caption display keeps up with audio content (*Rumreich, Col. 10, Lines 24-27*) by providing the caption creation means (speech-to-text) taught by Alshawhi in view of Throckmorton with an indication of the need for additional captioning data.

7. **Claims 5, 13, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawhi in view of Throckmorton et al, as applied to claims 1, 9, and 17 above, and further in view of Angell et al (*U.S. Patent: 6,513,003*).

Regarding **Claims 5, 13, and 21**, Alshawhi does not show the embedding (encoding) of the text [*caption*] data within the AV signal. Instead, a subtitle generator (24, Fig.1) is used to

overlay text data onto the AV signal. However, Angell et al. teach the embedding (encoding) of the text [caption] data within the AV signal (Fig 1(108, 140); Col 4, Line 55 - Col 5, Line 17). Embedding of a text signal by synchronizing and encoding the text with the audio video signal allows the composite signal to be played on a conventional display device at any location.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combination of Alshaw and Throckmorton by embedding (associating) text data with AV signal data using a database as taught by Angell et al. to improve on the real time dissemination of the composite audio video signal with closed caption.

8. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Alshaw in view of Throckmorton et al, and further in view of Kirkland et al (*U.S. Patent: 5,900,908*).

Regarding **Claim 16**, the combination of Alshaw and Throckmorton et al. discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text (caption) data and associating the audio and text (caption) data at a time that corresponds to the video signal. The combination of Alshaw and Throckmorton et al. do not show portability and the utilization of the device in the classroom. However, Kirkland teaches a method of providing encoding caption data into the program signal. The apparatus receives a television signal with various description data including caption data (Col 9, 15). The device itself is a set-top box that can be co-located with a television (portable) and which can be used

for live performances, classrooms and other types of presentations (CoI 3,29 and CoI10, 60).

Devices with such features help the handicap or hearing impaired by providing portable text or audio services.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Alshawi and Throckmorton et al. by making it portable for use in such venues as a classroom taught by Kirkland in order to improve on the capability of the captioning system for use in the classroom.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Wactlar et al (*U.S. Patent: 5,835,667*)- utilizes time stamps in video and transcript text (generated by speech recognition) to synchronize captions.

Funaki et al (*U.S. Patent: 5,983,035*)- teaches a means for indicating the need for additional caption processing if a time period expires or caption data exceeds a buffer threshold.

Ortega et al (*U.S. Patent: 6,332,122*)- teaches a means for synchronizing caption data with speech.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (703) 305-8669

and email is James.Wozniak@uspto.gov. The examiner can normally be reached on Mondays-Fridays, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached at (703) 305-4827. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

James S. Wozniak
3/2/2005


David L. Ometz
Primary Examiner